

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 **Claim 1 (Original):** A sound producer volume control
2 apparatus comprising:
3 a plurality of resistors series-connected to a drive
4 circuit of a sound producer;
5 a plurality of first switching means parallel-
6 connected to said plural resistors respectively;
7 control means for ON/OFF-controlling said first
8 switching means based upon a control signal supplied to
9 said first switching means;
10 second switching means series-connected to said sound
11 producer; and
12 sound producing pattern generating means for ON/OFF-
13 controlling said second switching means based upon a sound
14 producing pattern signal supplied to said second switching
15 means.

1 **Claim 2 (Original):** A sound producer volume control
2 apparatus as claimed in claim 1 wherein:
3 said plurality of resistors are connected between said
4 sound producer and the ground potential; and
5 said plurality of first switching means corresponds to

6 a first semiconductor switch whose operation state is
7 changed into an ON state in the case that said control
8 signal is a binary control signal and a level of said
9 control signal is equal to an "H" level.

1 **Claim 3 (Original):** A sound producer volume control
2 apparatus as claimed in claim 1 wherein:

3 said plurality of resistors are connected between said
4 sound producer and a drive power supply potential;

5 said plurality of first switching means corresponds to
6 a second semiconductor switch whose operation state is
7 changed into an ON state in the case that said control
8 signal is a binary control signal and a level of said
9 control signal is equal to an "L" level; and

10 reverse current blocking means for blocking reverse
11 currents flowing from said second semiconductor switch to
12 said control means respectively is provided in a signal
13 path of said control signal.

1 **Claim ⁷~~4~~ (Original):** A sound producer volume control
2 apparatus as claimed in claim 1 wherein:

3 one portion of said plural resistors is connected
4 between said sound producer and the ground potential, and
5 the other portion of said plural resistors is connected
6 between said sound producer and a drive power supply
7 potential;

8 said plurality of first switching means parallel-
9 connected to one portion of said plural resistors
10 correspond to a first semiconductor switch whose operation
11 state is changed into an ON state when said control signal
12 is a binary control signal and the signal level of said
13 control signal is equal to an "H" level;

14 said plurality of first switching means parallel-
15 connected to the other portion of said plural resistors
16 correspond to a second semiconductor switch whose operation
17 state is changed into an ON state when said control signal
18 is a binary control signal and the signal level of said
19 control signal is equal to an "L" level; and

20 reverse current blocking means for blocking reverse
21 currents flowing from said second semiconductor switch to
22 said control means respectively is provided in a signal
23 path of said control signal supplied to said second
24 semiconductor switch.

1 ⁸
2 **Claim 5 (Original):** A sound producer volume control
3 apparatus as claimed in claim 2, or claim ⁷4 wherein:

4 said first semiconductor switch corresponds to an NPN
5 type transistor, or an N-channel type field-effect
6 transistor.

1 ⁴
2 **Claim 5 (Original):** A sound producer volume control
3 apparatus as claimed in claim 3, or claim ⁷4 wherein:

3 said second semiconductor switch corresponds to a PNP
4 type transistor, or a P-channel type field-effect
5 transistor; and said reverse current blocking means
6 corresponds to an NPN type transistor.

9
1 **Claim 7 (Currently amended):** A sound producer volume
2 control apparatus as claimed in claim 1, 2, 3, or 7, ~~5~~, or
3 6 wherein:

4 said sound producing pattern generating means includes
5 comparing means for comparing a preselected signal with a
6 reference voltage, and outputs a PWM control signal as said
7 sound producing pattern signal; and

8 a duty ratio of said PWM control signal is changed in
9 response to said reference voltage.

10
1 **Claim 8 (Currently amended):** A sound producer volume
2 control apparatus as claimed in claim 1, 2, 3, or 7, ~~5, 6,~~
3 ~~or 7~~ wherein:

4 said sound producing pattern generating means AND-
5 gates a signal having a predetermined duty ratio and a PWM
6 control signal whose duty ratio is variable so as to
7 produce said sound producing pattern signal.

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1 **Claim 9 (Previously presented):** A sound producer
2 volume control apparatus as claimed in claim 3, wherein
3 said sound producing pattern is a pulse width modulation

4 (PWM) signal.

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Claim ~~10~~ (Previously presented): A portable radio
apparatus comprising a sound producer volume control
apparatus as claimed in claim ⁵ 9.
